

## REMARKS

### REJECTION OF CLAIMS 12-19 UNDER 35 USC § 103

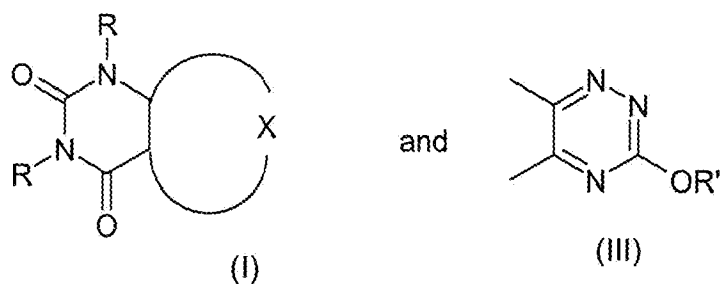
The Examiner has rejected Claims 12-19 under 35 USC § 103 as being unpatentable over Pallen et al. As noted by the Examiner, the structure of the compound drawn by Applicant's agent is not the same as what is shown in claim 12. Applicant's agent apologizes for the error.

The Examiner notes that Pallen et al. differs from the instant claims in exemplifying only R= methyl compounds but not R=H. However, the Examiner goes on to say that Pallen et al. teaches equivalency of those compounds taught with those generically recited in page 3.

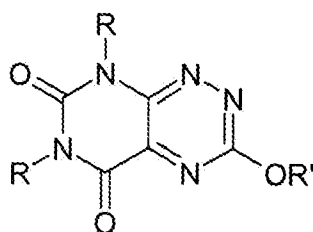
Applicant respectfully disagrees.

Comparison of Applicant's compounds with the teaching of W002/20525 (Pallen) :

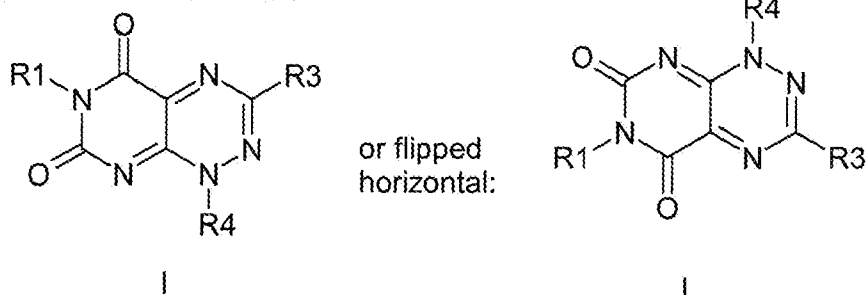
Combining Pallen (I) + (III)



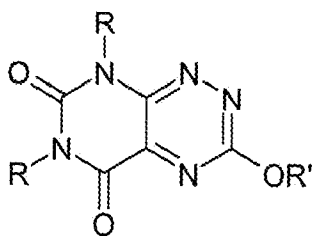
yields the following structure:



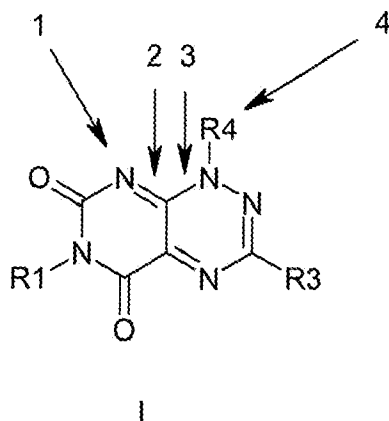
Applicant's compounds are shown below:



Pallen compounds:



Applicants' compounds:



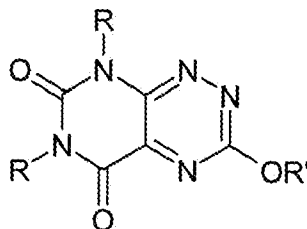
There are 4 differences in the structure (see arrows 1 to 4):

- 1) Applicants do not have a substituent R in this position (not even hydrogen).
- 2) Applicants have a double bond at this position – Pallen compounds have a single bond.
- 3) Applicants have a single bond at this position – Pallen compounds have a double bond at this position.
- 4) Applicants have a substituent R4 in this position – Pallen has no substituent at this position (not even hydrogen)

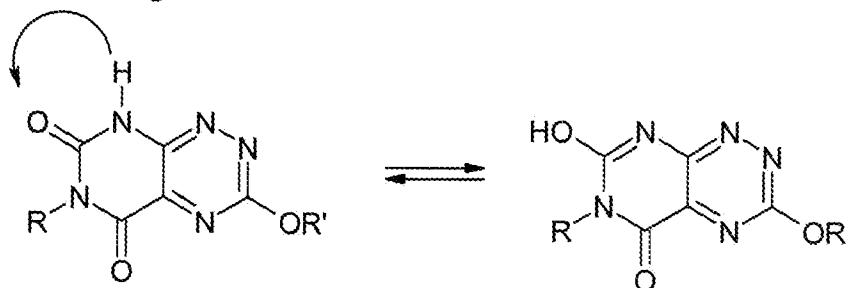
Despite Applicants' urging that there are variations between the Pallen compounds and the compounds of the instant invention, the Examiner asserts that there is no such variation. The Examiner asserts that "Applicants' argument apparently stems from not accepting tautomers and enol form". Applicant respectfully disagrees. Applicants' compounds are not tautomers of the Pallen compounds. A tautomerism is defined as a type of isomerism in which migration of a hydrogen atom results in two or more structures, called tautomers. Applicants enclose herewith a copy of the definition taken from Hawleys Condensed Chemical Dictionary. Aceto acetic esters, which have the property of both an unsaturated alcohol and a ketone, are exemplified in said definition. The two tautomers are in equilibrium. The Pallen compounds are pyrimidotriazine-5,7-diones. These compounds lack an unsaturated alcohol group and there is no suggestion in Pallen that they could form some kind of tautomer.

Notwithstanding the lack of any teaching regarding tautomers in Pallen, if one skilled in the art were to draw a compound wherein R or R' of the Pallen compounds is hydrogen, the theoretical "tautomerism" would result in compounds (i.e. theoretical tautomer A and B) that are different from the compounds of the present invention. See below.

Pallen compounds:

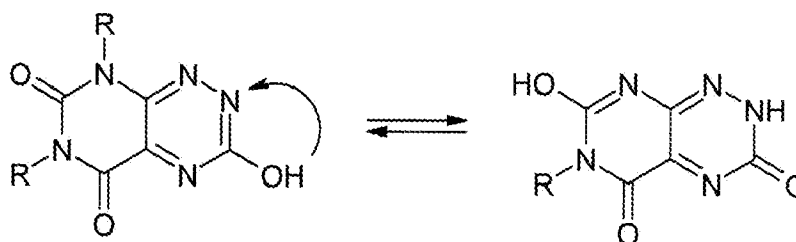


If R is Hydrogen:



"Theoretical Tautomer A of Pallen"

If R' is Hydrogen:



"Theoretical Tautomer B of Pallen"

Thus, the compounds of the instant invention are novel and non-obvious over the Pallen compounds. Applicants submit that the rejection under 35 USC §103(a) is improper and should be withdrawn.

### Conclusion

In view of the remarks contained herein, Applicants submit the application is in condition for allowance.

Respectfully submitted,

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# *Hawley's Condensed Chemical Dictionary*

*ELEVENTH EDITION*

*Revised by*

N. Irving Sax  
and  
Richard J. Lewis, Sr.



VAN NOSTRAND REINHOLD  
New York

nylazopyrazole trisodium salt; CI No. 19140).  
CAS: 1934-21-0.  $C_{16}H_9N_4O_5S_2$ .

Properties: Bright orange-yellow powder, soluble in water.

Hazard: An allergen.

Use: Dye, especially for foods, drugs, and cosmetics.

**tar, wood.** (tar, hardwood).

Properties: Black, syrup-like, viscous fluid.

Derivation: A byproduct of the destructive distillation of wood.

Grade: Technical.

Hazard: Flammable, moderate fire risk.

Use: Hardwood pitch, wood creosote, heavy high-boiling wood oils, wood preserving oils, paint thinners.

**"Tasil."**<sup>408</sup> TM for a refractory brick, usually manufactured of calcined Indian kyanite.  
Use: Construction of glass and metallurgical furnaces.

**taste.** See flavor.

**Taube, Henry.** (1915-) A Canadian born chemist who won the Nobel prize for chemistry in 1983 for his pioneering work in inorganic chemistry and the study of electron transfer reactions, particularly of metal complexes. Known as an outstanding teacher, he is admired and respected by students and colleagues for work at Stanford University.

**taurine.** (2-aminoethanesulfonic acid).

CAS: 107-35-7.  $NH_2CH_2CH_2SO_3H$ .

A crystallizable amino acid found in combination with bile acids; its combination with cholic acid is called taurocholic acid.

Properties: Solid, decomposes 300C, soluble in water, insoluble in alcohol.

Derivation: Isolated from ox bile, organic synthesis.

Hazard: Toxic by ingestion.

Use: Biochemical research, pharmaceuticals, wetting agents.

**taurocholic acid.** (cholaic acid; cholytaurine).

CAS: 81-24-3.  $C_{26}H_{49}NO_7S$ . Occurs as sodium salt in bile. It is formed by the combination of the sulfur-containing amino acid taurine, and cholic acid as the sodium salt. It aids in digestion and absorption of fats.

Properties: Crystals, stable in air, mp 125C (decomposes) freely soluble in water, soluble in alcohol, almost insoluble in ether and ethyl acetate.

Derivation: Isolation from bile.

Use: Biochemical research, emulsifying agent in foods (not over 0.1%).

**tautomerism.** A type of isomerism in which migration of a hydrogen atom results in two or more structures, called tautomers. The two tautomers are in equilibrium. For example, acetoacetic ester has the properties of both an unsaturated alcohol and a ketone. The tautomers are called enol and keto.

See also enol, isomer (1).

**"Taycor."**<sup>409</sup> TM for a group of corundum-based refractory products. Manufactured of high purity alumina which has been sintered to form tabular corundum.

**Tb.** Symbol for terbium.

**TBH.** Abbreviation for technical benzene hexachloride.

See 1,2,3,4,5,6-hexachlorocyclohexane.

Use: An insecticide.

**TBP.** Abbreviation for tributyl phosphate.

**TBT.** Abbreviation for tetrabutyl titanate.

**TBTO.** Abbreviation for bis(tributyltin oxide).

**Tc.** Symbol for technetium.

**TC.** Abbreviation for trichloroacetic acid or its sodium salt.

**TCA cycle.** (tricarboxylic acid cycle; Krebs cycle; citric acid cycle). A series of enzymatic reactions occurring in living cells of aerobic organisms, the net result of which is the conversion of pyruvic acid, formed by anaerobic metabolism of carbohydrates, into carbon dioxide and water. The metabolic intermediates are degraded by a combination of decarboxylation and dehydrogenation. It is the major terminal pathway of oxidation in animal, bacterial and plant cells. Recent research indicates that the TCA cycle may have predated life on earth and may have provided the pathway for formation of amino acids.

**TCB.** Abbreviation for tetracarboxybutane.

**TCBO.** See trichlorobutylene oxide.

**TCC.** Abbreviation for Tagliabue Closed Cup, a standard method of determining flash points.

**TCDD.** See dioxin.

**TCP.** Abbreviation for tricresyl phosphate.

**TDE.** (Generic name for 1,1-dichloro-2,2-bis(p-chlorophenyl)ethane; tetrachlorodiphenylethane; DDD).

CAS (C<sub>12</sub>H<sub>6</sub>)<sub>2</sub>CHCHCl<sub>2</sub>.

Properties: Colorless; soluble in organic solvents; compatible with alkalis.

Derivation: Chlorination with chlorobenzene.

Grade: Technical.

Hazard: Toxic by ingestion; use restrictions.

Use: Dusts, emulsions; contact control of insects.

**TDI.** Abbreviation for

**TDP.** Abbreviation for

**TDQP.** Abbreviation for line polymer.

**Te.** Symbol for tellurium.

**TEA.** (1) Abbreviation for triethylamine; (2) Abbreviation for triethylamine.

**TEAC.** Abbreviation for triethylamine chloride.

**technetium.** CAS: 7440-76-5. Element with atomic number 43. It is the first element of the periodic system to have no stable isotopes. It has a half-life of more than 105 years. It was first discovered in 1937 by the bombardment of molybdenum with neutrons. Technetium was first isolated in 1945 by the bombardment of molybdenum with neutrons. It has been found in the fission products of plutonium.

The chemistry of technetium is similar to that of manganese and manganic compounds. It is obtained from reactor extraction followed by precipitation with ammonium pertechnetate, followed by extraction with organic solvents. The metal is mp 2200C (4000F). Compounds of the type TcO<sub>4</sub><sup>-</sup> etc. have been prepared. It has strong anticorrosive properties and its alloys are used to create high-temperature resistant materials. It is widely used isotope in medicine. Use: Metallurgical transition resistance, nuclear medicine.

**Technical Association of the Paper Industry.** (TAPPI). An association of scientists devoted to the study of paper chemistry and technology.